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ABSTRACT

This report describes the third party evaluation of the State Fair Community College Experience-Based Career Education (EBCE) program. Experience based career education students and control students were compared using both locally developed instruments and standardized measures. Standardized measures inlcude the Career Development Inventory, Career Maturity Inventory, Student Attitude Survey, and Tests of Academic Progress. Among the findings of the evaluation was that the eleven students who completed the program out of the twelve who began completed at least one academic credit through EBCE projects. Results of the Career Development Inventory indicate that the distribution of occupational group preferences show more change for EBCE students while ratings of strength of preference were significantly higher for EBCE than for control students. Resource persons participating in the program indicated strong support for the project saying they would recommend it to others. (Pretest and posttest data are appended.) (LRA)

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State Fair Community College

Experience Based

Career Education

1977-1978

Third Party Evaluation

Report

June 30, 1978

Margery A. Neely, PhD

Kansas State University

College of Education

Center for Extended Services

Manhattan, Ks 66506

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STATE FAIR COMMUNITY COLLEGE
EXPERIENCE BASED CAREER EDUCATION
1977-78
EVALUATION

I

OVERVIEW OF CAREER EDUCATION EFFORT[1]

Origin of the Career Education Project, State Fair Community College

In 1976 State Fair Community College in Sedalia, Missouri, recognized the need to implement a program involving experience based career education into the school districts that comprise the community college district. After several meetings with interested districts, State Fair Community College submitted a proposal to develop and implement an experience based career education program for grades 9 and 10 as part of the comprehensive K-14 career education program in this three-county non-urban area in Missouri to the U.S. Office of Education. In April, 1977, State Fair Community College, in cooperation with Otterville Public Schools in Cooper county; Sedalia School District #200, La Monte R-IV, Smithton R-VI, Green Ridge R-VIII, Hughesville R-V, and Sacred Heart (a parochial school system) in Pettis county; and Cole Camp R-I, Lincoln R-II, and Warsaw R-IX in Benton county received a grant of $159,741 to implement the proposal under Part D of the Vocational Act, as amended. The original grant is for 12 months with renewal for an additional two years dependent upon satisfactory accomplishments each year. During the Spring of 1977, a project director and other staff specified in the original grant were employed. The first year of the project began June 1, 1977.

1-Format follows that suggested in Handbook for the Evaluation of Career Education Programs (Draft), Bureau of Occupational and Adult Education, U.S. Office of Education, DHEW, 1974.

The goals and objectives of the total Career Education Program, as stated in the proposal, are as follows:

GOALS AND OBJECTIVES

Components:

I. To continue a broad program of career awareness (K-8) by providing career education materials to teachers through a career education resources center located on the college campus previously developed in a Part D program.

*II. To implement an in-school experience based cluster program in grades 9-10 utilizing materials developed as part of the Experience Based Career Education program at the Appalachia Educational Laboratory.

III. To expand skill career education training opportunities available to youth in grades 11-12 through the design and implementation of cluster curriculum in the AVTS.

IV. To expand skill training opportunities for post-secondary, adult, and special needs students through cluster curriculum individualization and mediation of training programs.

V. To pilot test individualized cluster curriculum programs and provide distribution to all schools throughout Missouri that are working in such program areas.

VI. To provide placement services for all students at any level from education to education, education to work, or work to education.

This project would promote all aspects of career education and provide experience based programs at the junior-senior high level in the three-county area and would serve as a model for other rural areas in Missouri.

During the elementary years the focus is on career awareness as students become aware of the world of work and self-concepts. In the early grades awareness of the community and its interrelationship is the focus of many activities.

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*Note: All activities of the EBCE project relate to Component II only.

Exploratory activities begin as the students move to the junior high years. These will be conducted both in class through activities and special programs. Special instruction will be given to local ninth grade teachers through workshops and individual sessions to assist them in using career education activity guides developed by local teachers as part of the original Part D, Exemplary Project, coded to the USOE fifteen cluster structure. Use of field trips and guest speakers will be encouraged.

During the tenth grade year a new program of exploration will begin for students with the implementation of an Experience Based Career Education (EBCE) program. This will be offered as an alternative program along with the regular school curriculum. The EBCE program is the focus of this report, with students from Smith-Cotton High School only for the first year. The estimated 30 EBCE students will complete the program the first year and will be compared with "control" students, who remain in the traditional curriculum. The treatment[2] in the EBCE program includes Senior High Career Exploration through experience sites generating individual study plans for academic credit. The EBCE (AEL) concept/inquiry model of learning has a student select key concepts for study, investigate those concepts at work in the community, and draw conclusions about the concepts.

The SFAVTS cluster skill training programs for occupational preparation and exploratory cluster work experience programs in professional occupations are available for eleventh and twelfth grade students along with the regular curriculum.

Many options are open to students upon completion of high school. State Fair provides Adult and Post-Secondary cluster skill-training, Post-Secon-

---

[2] Basic Procedures Manual, Student Career Guide, and Student Program Guide, Appalachia Educational Laboratory, Charleston, West Virginia, 1976.

dary Community College career preparation, four year college/university preparation and placement assistance, job placement services, adult community service programs, and a CETA program of occupational training for disadvantaged/special needs students.

A SFCC program for special needs students is in outreach, special counseling assistance, and placement and followup.

In following this model (see page 5) a continual line of career guidance is offered in each program to facilitate students in determining their career goals and preparing for entry into the world of work.

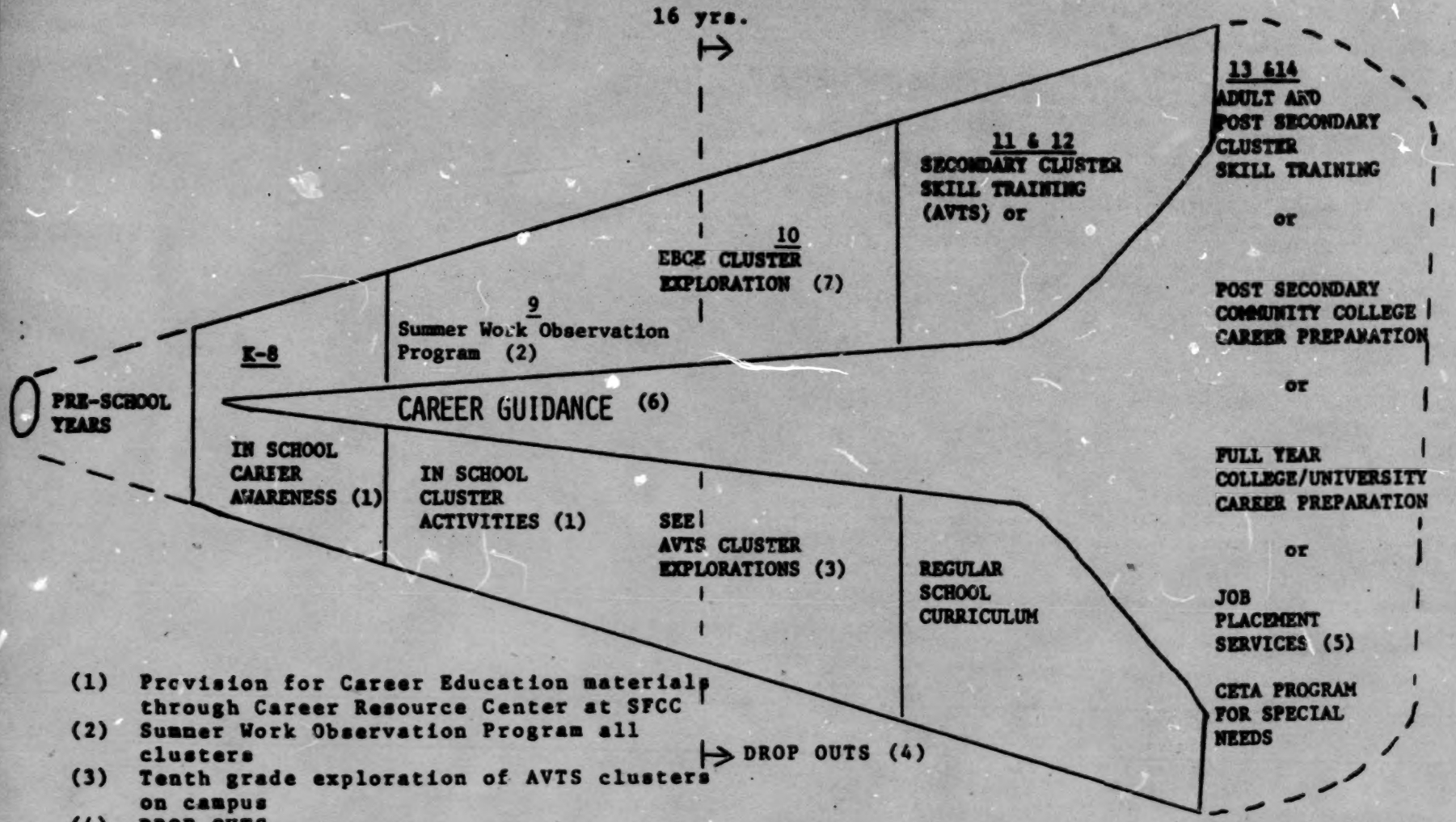
Through programs currently being offered at SFAVTS and the implementation of the EBCE program, systematic linkages with all areas of business/industry, professions, and government are thus insured. The EBCE program is based upon a joint working relationship of parents, school, and community for the benefit of students.

Coordination of regular vocational offerings is inherent in the State Fair Community College Student Career Development model as presented on page 5. Articulation from one step to the next is provided. Any students completing this model will have acquired an entry-level job skill.

For the EBCE program, the fulltime professional staff include an Operations Director, two Learning Coordinator (LC)/Site Analysts, and one Placement Specialist/Career Resource Coordinator for the first year of the potential three-year project.

The number of students is estimated to be 30 from Smith-Cotton High School in Sedalia the first year, increasing to 90 from several districts the second year and 150, the third year. The number of LC staff will increase

COMPREHENSIVE CLUSTER CONCEPT MODEL FOR STUDENT CAREER DEVELOPMENT



(1) Provision for Career Education materials through Career Resource Center at SFCC
(2) Summer Work Observation Program all clusters
(3) Tenth grade exploration of AVTS clusters on campus
(4) DROP OUTS
    (a) Student exit interview (b) Placement assistance
(5) Placement assistance to any student seeking employment
(6) Provided by local schools and special programs/materials at Career Resource Center at State Fair Community College
(7) Implementation of EBCE option for exploratory activities

at the ratio of 1 to 15 students.

Learning Coordinators will help each student develop Activity Sheets outlining the academic work to be completed in conjunction with placement on experience sites by each student for the semester. Experience sites and learning guides are developed and coordinated by the Placement Specialist/ Career Resource Coordinator.

The focus of this evaluation is limited to the Grade 10 section of Component II -- "To implement an in-school experience based cluster program in grades 9-10 utilizing materials developed as part of the experience based Career Education program at the Appalachia Educational Laboratory."

Expenditures for the project year include the following:

Expenditure	Amount	Source
A. Personnel		
Six Professional Staff	$74,028	
	(69,209)	(Part D)
	(4,819)	(Local)
B. Travel (Staff)	9,470	
	(9,470)	Part D
C. Equipment	6,000	
	(6,000)	Part D
D. Supplies/Materials	13,926	
Office Supplies	(4,473)	(Part D)
Instructional Materials	(2,100)	(Part D)
Computer Services	(7,353)	(Part D)
E. Services	24,576	
Contractual AEL	(16,630	(Part D)
Third Party Evaluation	(6,946)	(Part D)
Consultants	(1,000)	(Part D)
F. Communications/Reproduction	8,000	
	(8,000)	Part D

Expenditure (cont'd)

G.	Operation	$13,460	
	Student Transportation	(12,000)	(Part D)
	Insurance	(810)	(Part D)
	Professional Services	(450)	(Part D)
	Reports	(200)	(Part D)
H.	Facility	2,400	
		(2,400)	Local

The objectives of this program are listed in the subsequent section, followed by Recommendations for Program Modifications, Outcome Question/ Treatment Group Matrix, Discussion of Methodology, Detailed Results and appendices of Informed Consent Letters and Tables of Means and Standard Deviations.

II

EVALUATION QUESTIONS ADDRESSED AND SUMMARY OF ANSWERS

The implementation objectives of the program were of two kinds: program/process objectives and student outcome objectives. Program/process objectives describe operating conditions which should prevail at the end of the grant period. Student outcome objectives, behaviorally stated for ease and accuracy of evaluation, describe student learning which should result from student participation in a fully operational EBCE program. The Program Objectives, Managerial/Budget analyses, and Student Outcome results are listed below.

The evaluation plan was designed to determine, 1) the extent to which the objectives of the program have been accomplished and 2) the factors that have either enabled or precluded accomplishment of the objectives. The latter purpose is discussed in Section III: Recommendations for Program Modifications.

Program Objectives

1. The program will expand the involvement of employer and community organizations and individuals in the educational process by exposing students to a diverse range of careers represented and available for student exploration and increasing the students' academic scope and context of learning experiences available to them through community based experiential learning.

   Indicators

   a. The resource pool is a diverse number of community experience sites and personnel across career clusters.

   b. The resource pool represents careers at all levels, including technical and professional levels.

c. The resource pool offers experientially based learning opportunities in major academic areas (English, Math, Social Studies, and Science), as well as career development opportunities.

The findings (see Section VI) indicate that adequate progress was made during the first year resulting in attainment of these indicators.

2. The program will increase the availability and attractiveness of career exploration and career development opportunities for all students.

Indicator

a. The EBCE program has been especially designed to be an alternative for the full range of high school students from low to high ability students, over and under achievers, college prep to potential dropouts. The program appeals to the entire cross section of student abilities and interests, and also is representative of the social/sexual/economic distribution of Central Missouri's student population.

The findings indicate the EBCE program attracted a small sample, representative on all but sex (2/3 were boys where 1/2 the population is male).

3. The program will promote the integration of academic, vocational, and general education.

Indicators

a. Students will earn course credits in academic subjects through completion of community/experience based projects for which they acquire academic as well as career knowledge and skills.

b. Students will increase their understanding of how academic knowledge and skills are applied in the career areas they are exploring.

The findings indicate the students performed at the same academic rate as control students and earned comparable number of credits. All completed several site explorations using the AEL concept/inquiry model of learning.

4. The program will increase the relevance of the individual student's education to employment and functioning in society.

Indicators

a. Students learning programs will be designed to help prepare them to make increasingly sound career decisions.

b. Students' programs will be designed to display the relevance of their current educational activities to their future plans, or clarification of their future plans.

The findings indicate nearly all EBCE students perceived the program as positive help for career plans.

5. The program will encourage development of attitudes, skills, and knowledge enabling students to cope with accelerating societal change.

Indicators

a. Using the AEL-EBCE Inquiry Model of critical thinking, student projects will focus on developing skills of problem-solving; acquiring, using, and communicating information; working effectively with others; and acquiring and using subject matter knowledge and skills in solving practical problems.

b. Students will explore a range of work situations within and across career clusters.

The findings indicate these indicators fully describe the activities of the students as they completed a series of Activity Sheets.

6. The program will seek to promote a positive attitudinal climate in the school and the community toward experience-based learning as a legitimate educational activity.

Indicators

a. An increase in the number of participating employer/community attitudes towards the program.

b. Increased student enrollment will indicate positive students attitude toward the program.

c. Increased faculty (teachers and counselors) referral of students to the EBCE program will be indicative of faculty support of the program.

Findings indicate student, parent, and resource people strongly support EBCE while the sampled teacher responses were not positive.

Budget Analyses*

The analyses in Section VI indicates that expenditures were reasonable and projected estimates modified somewhat. The human and financial resources were expended in line with carrying out the Management Plan of Program/ Outcomes.

Student Outcome Objectives

The following student outcome objectives have been identified as occurring for students who participate in programs of experientially based learning as identified in a paper entitled, "A Focus on the Transition from Education to Work".[3] The Federally Administered Vocational Education Exemplary Programs and Projects, Fiscal Year 1976, Joyce Cook, author.

1. Students who participate will acquire basic academic skills which are at least equal to their counterparts in a traditional program and which are required to adaptability in our rapidly changing society.

2. Student who participate will demonstrate that they have developed work habits which are superior to those developed by young people in a traditional program (evidenced by the ability to establish goals, make commitments, and persevere to the accomplishment of their goals; by rate of attendance; by punctuality; and other measures deemed appropriate).

3. Students who participate will show more positive attitudes toward work and will, in stating personal values, indicate a desire to work.

4. Students who participate will demonstrate a higher level of career decision-making skills, job hunting skills than will people in a traditional program.

5. Students who participate will demonstrate a higher level of self-awareness and career awareness than will young people in a traditional program.

6. Student who participate will have greater awareness of their opportunities for continuing and recurrent education after they leave the formal system of schooling than will young people in traditional program.

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3. Cook, J., "A Focus on the Transition from Education to Work". The Federally Administered Vocational Education Programs and Projects: Fiscal Year 1976, USOE, DHEW.

* Prepared by evaluation consultant Dr. William Sparkman, Kansas State University.

7. Student who participate in the program will have a higher level of satisfaction with their choices of education and work than will young people in a traditional program.

8. Students who participate in the program will be more likely to select career areas for exploration, for their career goals, or for career preparation which are different than those normally expected for their sex-role than will young people in a traditional program.

9. Student who have been a part of this program will have a wider range and more employment opportunities in a larger geographic area.

10. Students who participate in a program will have greater capabilities for selecting careers commensurate with their interests, abilities, and career expectations.

11. Students who participate will acquire an awareness of vocational skills which are common to many occupations in a cluster of their choice and will gain an awareness of how these skills will contribute to their lateral and upward mobility.

12. Students who complete the cluster program experiences will have an entry-level job skill which will permit them a choice of a job, further education, or both.

13. Students who make a tentative career decision of a single job that they desire will, through enrollment in an in-school vocational program, a cooperative vocational education program, or an individually-prescribed training program, begin to develop skills that will permit them to enter that career at a level higher than that basic entry level job for which they were prepared in the cluster experience.

These outcomes are shown by number next to the behavioral objectives cited below, e.g., "academic skills (Objective #1)" means the behavioral statement is an operational definition of the first objective above. In addition to measuring the level of success achieved in reaching the above outcomes, the project measured such affective areas as:

1. Whether students experience reduced feeling of alienation from their communities, and

2. Whether students view their learning environment as more friendly and conducive to their own self development and career development.

Behavioral Objectives

1. Academic Skills (Objective #1)

EBCE student will maintain an acceptable level of performance in academic skills.

Indicators: Academic tests and grade point average

The findings indicate there were no differences in EBCE and control students' maintenance of skills and the objective was met.

2. Student Work Habits (Objective #2)

EBCE students' work habits will be positively rated on sites, attendance and punctuality will be better than control students.

Indicators: Resource Persons' comments, comparison of attendance records

The findings indicate generally high regard for work habits, punctuality was not amenable to quantification, and attendance was no different for EBCE and control. Objective was met.

3. Attitudes (Objectives #3,5,14,15,16)

EBCE will increase positive attitudes toward work, planfulness, learning environment, self, and community.

Indicators: Career tests and attitude scales

The findings indicate only planning was increased to a significant degree by EBCE over control students' attitude change (partially met).

4. Career Objectives (Objectives #4,8)

EBCE students will increase career decision-making skills and nontraditional exploration.

Indicators: Career Tests

There were no significant increases found except in increase strength of commitment to the cluster of occupations chosen and in choosing a job. The objective was partially met.

5. Career Development (Objectives #7,8,13)

EBCE students will increase knowledge of and commitment to career development activities.

Indicators: Career Tests

The findings indicate no significant increase.

6. Breadth of Career Options (Objectives #9,1011,12)

EBCE students' career skills will increase which will permit more employment opportunities.

Indicators: Career tests, survey, comments, and Activity Sheets completed

The findings indicate this objective was partially met (only certain tests showed significant increases while survey questions, comments on plans and Activity Sheets were strong, positive indicators).

Student Demographic Data

The data in Section VI indicate the students represented the age, ability, occupational choice preferences, and socioeconomic status adequately for Smith-Cotton but a disproportionate number of boys participated. (The small "N" made definitive statements difficult.)

Conclusions

1. The program objectives were generally adequately met.

2. The student outcome objectives were fully met in 33% of the objectives, partially met in 50% of the objectives, and not met in 17% of the objectives:

students' academic skills were maintained; work habits were positive; attitudes, decision-making skills, and breadth of options partially increased; and, only career knowledge on standardized tests showed no increase for this small group.

In conjunction with the attainment of all program objectives, the EBCE project has been implemented as a needed alternative program.

III

RECOMMENDATIONS FOR PROGRAM MODIFICATION*

Certain trends and results yielded the following suggestions for consideration in program and evaluation.

First, the fine support from participants - students (and their parents) and resource persons - is missing or negatively stated in teachers. Additional communications efforts describing the academic side, the concept/inquiry model should be undertaken, like the November 1977, EBCE teacher workshop.

Second, the student numbers should (and are planned to be) be increased through plans with school districts so that all who want to participate, can, and so that real differences will appear in the criterion measures.

Third, some consideration should be given to the feasibility of altering the timing of placements, as suggested in Resource Persons comments on what they would change (longer on site time in mornings, what to do with lunch hours). Experience sites should be expanded in USOE and WTG clusters not now covered.

Fourth, the Activity Sheets and concept/inquiry guides lend themselves to fine work in Composition and a standardized academic test might be added to provide a measure of this academic skill. The intercorrelations amongst career tests would indicate some should be omitted, based also upon this project's emphasis.

A summary is in both the Outcome Question/Treatment Group matrix and Treatment Group/Outcome Area Table contained in the next section.

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* The recommendations are more for continuing the project's already ongoing attention to issues that appeared in the evaluation.

IV.

OUTCOME TREATMENT/GROUP MATRIX

The matrix in this section[3] shows in outline form the relationship of the evaluation questions and results to the student outcomes described in Sections II and VI.

OUTCOME QUESTION/TREATMENT GROUP MATRIX

QUESTION	GROUP Grade 10 Smith-Cotton EBCE
1. Do students maintain an acceptable level of academic performance? *IIA,B	X
2. Do students' work habits (attendance and punctuality) increase and ratings by Resource Persons yield positive results *VIE	X
3. Do students increase positive attitudes toward work, planfulness, learning environment, self, and community? *IC,D;IIIB	P
4. Do students increase career decision-making skills and exploration of nontraditional careers? *IID,IVC,VF	P
5. Do students increase in knowledge of and commitment to career development activities? *VC; VIIA	N
6. Do students' career skills increase (which will permit more employment opportunities)? *IIC;V;VI?	P

*Indicates number of Outcome Question, Table IV-II, Handbook for the Evaluation of Career Education Programs (Draft), Bureau of Occupational and Adult Education, US Office of Education, Department of Health, Education, and Welfare, Washington, DC, August 15, 1974.

X=achieved; P=partly achieved; N=not achieved

[3]Based upon suggestions from the Handbook, op.cit., p.1.

V
DISCUSSION OF METHODOLOGY

In this section, the planned and estimated methodology, along with subsequent modifications of the evaluation design, is described.

The purpose of the evaluation design is to show the relationship of the treatment (participation in Experience Based Career Education) to the measures of student outcome objectives.

Participants

As shown in the Planned Evaluation Design Worksheet, the plans were for 30 EBCE students from Grade 10 in Smith Cotton High School to be matched with 30 control students on the basis of GATB (General Aptitude Test Battery - G(Intelligence)) score from the November test administration. The students were anticipated to be representative of the distribution of sex, socio-economic status, and ability.

In reality, 12 students were able to fit their schedules with that of EBCE, although 27 had intended to participate. One of the 12 dropped, leaving eleven EBCE students.

These students were matched as closely as possible to control students who had been drawn as matches or random samples for a total of about 30 students.

Each EBCE and control student's parents/guardian had to return an Informed Consent letter (see Appendix A) in order to participate. Those not completing the signed form could not be tested. Seventeen returned the letter, but three did not appear for post testing and one had incomplete data.

The students had a median age of 16, were representative of socioeconomic status (based upon educational level and occupation of mothers and fathers),

but were disproportionately male (8 of the 11).

The small number of students make occurrence of differences large enough to be significant between EBCE and control difficult to obtain. The matched pairs (EBCE-Control or GATB-G or equivalent) were not randomly assigned to EBCE and control. Thus, the interpretations of data may be biased to an unknown degree or may be correct, since lack of randomness has the potential of some bias. However, the EBCE students CHOSE to participate and the control students CHOSE to remain in the traditional curriculum, which should even the motivation level.

Instruments

Both locally developed instruments and standardized measures were used to collect information as shown on the January-May Data Collection Schedule Worksheet in the next part.

Intercorrelations among all pretest measures are provided in Appendix B, Table 26. An "r" over 36 indicates the measures were significantly correlated (and measuring the same concept to some degree).

The standardized measures are copyrighted and are not included but are here described, followed by a brief description of the locally developed instruments that are then displayed in this section.

Standardized Measures. These are listed alphabetically:

1. Career Development Inventory (Super, D.E., & Forrest, D.J., New York Teachers College, Columbia Univ., 1972)

   I. Extent of planning (maximum score 150)
   Asks questions about how much thinking and planning have been given to career plans, educational plans, and job choices.

   II. Use of resources (maximum score 450)
   Asks questions about whom or what could provide needed career information and which ones have already been utilized by the student.

III. Career decision-making (maximum score 30)
Provides sketches of various decisions and asks the student to choose what should be done.

IV. Career development information (maximum score 30)
Asks questions about various decisions that are possible at a choice-point.

V. World of Work Information (maximum score 30)
Asks questions about occupational families, job descriptions, training needs of selected workers, tools, employment trends, legislation, and salaries.

VI. Knowledge of preferred occupation (maximum score 41)
The student chooses one of 26 occupational groups and answers questions about that group.

2. Career Maturity Inventory (Crites, J., Del Monte Research Park, Monterey, Ca., 1973)

Attitude Scale (maximum score 50)
Asks questions about orientation to work, work values, etc.

Competence Tests*

I. Knowing yourself (maximum score 20)
A self appraisal that presents sketches with choices to be selected for resolution.

II. Knowing about jobs (maximum score 20)
A brief description of a job performed by a person is presented with the student choosing the correct occupational title.

III. Choosing a job (maximum score 20)
A person is described and the student chooses one of four titles that is the best for that person (in which the person would be happiest and most successful)

3. Student Attitude Survey School/Work (Fulton, B.J., Marshall, J.C., & Sokol, A.P. Career Education Strategies. St. Louis: Evaluative Research Associates, 1975).

Provides the following indices:

I. Positive School (maximum score 27)
High scores indicates attitudes that school is fun and school related work is liked.

II. Negative School (maximum score 24)
Low scores indicate school is not seen as useful or interesting.

* These were added to the Planned Evaluation Design upon request of project personnel, since previous careered efforts have included some of the Competence tests.

III. Positive Work (maximum score 24)
High scores indicate student has thought about a career and wants to know more, expects jobs to be fun and that students should learn about careers in school.

IV. Negative Work (maximum score 21)
Low scores indicate expectations that work will be boring, that one will do just enough to get by and that there are no job plans.

4. Tests of Academic Progress (Scannell, D., Boston: Houghton Mifflin, 1971).

Form S

Provide an appraisal of student progress toward widely accepted academic goals of secondary-school education.

Reading (standard scores)
Tests identification, comprehension, application, and evaluation.

Mathematics (standard scores)
Tests application of concepts and operational skills in a variety of situations.

An instrument that bridges both local and standardized is the Basic Skills Inventory, adapted by Appalachia Educational Laboratory from a Job Corps inventory of reading and math skills. This test was given to control students so focus on these skills was the same in traditional curriculum as preliminary focus in EBCE.

The data are only suggestive for program planning purposes since the short inventory is limited in reliability and validity.

Local instruments

The local instruments, presented in order on the next few pages are:

1. Student Information Questionnaire

(SIQ) adapted from AEL Evaluation Handbook by Dr. Joe Shively, Charleston, W.VA, 1977.
-(Pretest given to both EBCE and Control)
-Provides demographic data, plans, and ratings of project.
-SIQ-Post (for EBCE)
-SIQ-Post (for Control)
-these were different in past tense verbs used.

2. Semantic Differential (Osgood, C., Suci, G., & Tannenbaum, P., The Measurement of Meaning, Urbana, Ill: Univ. of Ill., Press, 1967.

STUDENT INFORMATION QUESTIONNAIRE

NAME_____
Last First Middle Initial

1. What do you expect to be doing one year after completing high school? (Place an "X" next to your major plan, although you may do more than one.)
__Working full time
__Entering an apprenticeship or on-the-job program
__Going into regular military service or a service academy
__Being a fulltime homemaker
__Attending a vocational,technical,trade, or business school
__Taking academic courses at a community college
__Taking technical/vocational courses at a community college
__Attending a fouryear college or university
__Working part time
__Other (travel, take a break, no plans: write here_____)

2. How useful for your own plans do you believe that experiencing a career in its own setting would be? (Place an "X" above the number that indicates the idea's usefulness for you) USEFUL _ _ _ _ _ _ _ NOT USEFUL
7 6 5 4 3 2 1

3. Would you recommend an experienced-based career education program to friends? YES _ _ _ _ _ _ _ NO
7 6 5 4 3 2 1

4. Under FATHER circle the number that best describes the highest level in school your father completed (or your male guardian completed).
Under MOTHER, circle the number that best describes the highest level in school your father completed (or your female guardian completed). Read through before circling.

LEVEL	FATHER	MOTHER
None	1	1
Elementary School	2	2
Some High School	3	3
High School Graduate	4	4
Some after High School (for example, attended some college, business,trade or technical school)	5	5
College graduate (four-year degree)	6	6
Some graduate work	7	7
Advanced degree (specify)_____	8	8

5. Did you participate in the Summer Work Observation Program?
Yes___ No___

6. Under FATHER, circle the one number that best describes the work done by your father (or male guardian). Under MOTHER, circle the one number that best describes the work done by your mother (or female guardian). The exact job may not be listed but circle the one that comes closest. If either of your parents is out of work, disabled, retired, or deceased, mark the kind of work that he or she used to do.

(Circle <u>one</u> number in each column.)

	Father	Mother
CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent	01	01
CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter	02	02
FARMER, FARM MANAGER	03	03
HOMEMAKER OR HOUSEWIFE	04	04
LABORER such as construction worker, car washer, sanitary worker, farm laborer	05	05
MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official	06	06
MILITARY such as career officer, enlisted man or woman in the armed forces	07	07
OPERATIVE such as meat cutter; assembler; machine operator; welder; taxicab, bus, or truck driver; gas station attendant	08	08
PROFESSIONAL such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress	09	09
PROPRIETOR OR OWNER such as owner of a small business, contractor, restaurant owner	10	10
PROTECTIVE SERVICE such as detective, policeman or guard, sheriff, fireman	11	11
SALES such as salesman, sales clerk, advertising or insurance agent, real estate broker	12	12
SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter	13	13
TECHNICAL such as draftsman, medical or dental technician, computer programmer	14	14

STUDENT INFORMATION QUESTIONNAIRE

NAME _____
Last First Middle Initial

1. What do you expect to be doing one year after completing high school? (Place an "X" next to your major plan; although you may do more than one.)

____ Working full time
____ Entering an apprenticeship or on-the-job program
____ Going into regular military service or a service academy
____ Being a full time homemaker
____ Attending a vocational, technical, trade, or business school
____ Taking academic courses at a community college
____ Taking technical/vocational courses at a community college
____ Attending a four year college or university
____ Working part time
____ Other (travel, take a break, no plans: write here_____)

2. How useful for your own plans do you believe that experiencing a career in its own setting has been? (Place an "X" above the number that indicates the idea's usefulness for you.)

USEFUL ___ ___ ___ ___ ___ ___ ___ NOT USEFUL
7 6 5 4 3 2 1

3. Would you recommend an experienced-based career education program to friends?

YES ___ ___ ___ ___ ___ ___ ___ NO
7 6 5 4 3 2 1

STUDENT INFORMATION QUESTIONNAIRE

NAME _____
Last First Middle Initial

1. What do you expect to be doing one year after completing high school? (Place an "X" next to your major plan, although you may do more than one.)

_____ Working full time
_____ Entering an apprenticeship or on-the-job program
_____ Going into regular military service or a service academy
_____ Being a full time homemaker
_____ Attending a vocational, technical, trade, or business school
_____ Taking academic courses at a community college
_____ Taking technical/vocational courses at a community college
_____ Attending a four year college or university
_____ Working part time
_____ Other (travel, take a break, no plans: write here_____)

2. How useful for your own plans do you believe that experiencing a career in its own setting would be? (Place an "X" above the number that indicates the idea's usefulness for you.)

USEFUL _____ _____ _____ _____ _____ _____ _____ NOT USEFUL
7 6 5 4 3 2 1

3. Would you recommend an experienced-based career education program to friends?

YES _____ _____ _____ _____ _____ _____ _____ NO
7 6 5 4 3 2 1

Instructions

In taking this test, please make your judgments on the basis of what these things mean to you. On each page of this booklet you will find a different concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order.

Here is how you are to use these scales: If you feel that the concept at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

	extremely	quite	low	neutral	low	quite	extremely	
fair	X :	:	:	:	:	:	:	unfair

or

fair	:	:	:	:	:	:	X :	unfair

If the concept seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

strong	:	X :	:	:	:	:	:	weak

or

strong	:	:	:	:	:	X :	:	weak

If you consider the concept to be neutral on the scale, both sides of the scale equally associated with the concept, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check-mark in the middle space:

safe	:	:	:	X :	:	:	:	dangerous

Do not worry or puzzle over individual items. On the other hand, please do not be careless because we want your true impressions.

DATE _____

SEMANTIC DIFFERENTIAL

NAME _____ SCHOOL _____

Place an X on a line between dots below, indicating the degree of your reaction to the phrase at the top of the page.

MY COMMUNITY

good	: : : : : : : :	bad
happy	: : : : : : : :	sad
ugly	: : : : : : : :	beautiful
passive	: : : : : : : :	active
fast	: : : : : : : :	slow
worthless	: : : : : : : :	valuable
positive	: : : : : : : :	negative
pleasant	: : : : : : : :	unpleasant
cold	: : : : : : : :	hot

DATE _____

SEMANTIC DIFFERENTIAL

NAME _____ SCHOOL _____

Place an X on a line between dots below, indicating the degree of your reaction to the phrase at the top of the column.

SCHOOL

active	: : : : : : : :	passive
cold	: : : : : : : :	hot
worthless	: : : : : : : :	valuable
positive	: : : : : : : :	negative
bad	: : : : : : : :	good
beautiful	: : : : : : : :	ugly
slow	: : : : : : : :	fast
happy	: : : : : : : :	sad
pleasant	: : : : : : : :	unpleasant

DATE _____

SEMANTIC DIFFERENTIAL

NAME _____ SCHOOL _____

Place an X on a line between dots below, indicating the degree of your reaction to the phrase at the top of the column.

MYSELF SPENDING LIFE IN
MY HOMETOWN COMMUNITY

pleasant	: : : : : : : :	unpleasant
passive	: : : : : : : :	active
bad	: : : : : : : :	good
hot	: : : : : : : :	cold
slow	: : : : : : : :	fast
beautiful	: : : : : : : :	ugly
sharp	: : : : : : : :	dull
dirty	: : : : : : : :	clean
positive	: : : : : : : :	negative
sad	: : : : : : : :	happy
valuable	: : : : : : : :	worthless
fair	: : : : : : : :	unfair

Mail Survey

To: Parents, Resource Persons, Faculty

From: Judy Rae Kuhlman, Director, Experience Based Career Education,
State Fair Community College, 1900 Clarendon, Sedalia, Missouri 65301

In order to evaluate the Experience Based Career Education Program, we would appreciate your responding to this survey by May 19th. Your return of this questionnaire constitutes your agreement to voluntary participation in this survey. You may decline to answer items. Results will be available in 90 days at State Fair Community College, and will only be reported as group data.

Check one:

I am

Parent of EBCE student _____
Resource Person _____
Teacher _____

My school district is Smith-Cotton _____

I am

Male _____
Female _____

In your opinion:

1. Would you recommend EBCE to students?

No |___|___|___|___|___|___|___| Yes
1 2 3 4 5 6 7

2. Does experience based career education offer a needed alternative program to the traditional high school curriculum ?

Yes |___|___|___|___|___|___|___| No
7 6 5 4 3 2 1

3. Would you recommend EBCE to colleagues?

Yes |___|___|___|___|___|___|___| No
7 6 5 4 3 2 1

4. Was the EBCE project adequately staffed and planned?

Yes |___|___|___|___|___|___|___| No
7 6 5 4 3 2 1

5. How would you describe EBCE? _____

_____

_____

6. What one thing would you change about EBCE? _____

7. Does EBCE help students make informed career decisions?

Yes |___|___|___|___|___|___|___| No
7 6 5 4 3 2 1

8. Does EBCE make clear the relevance of education to a future career moreso than the usual high school program does?

No |___|___|___|___|___|___|___| Yes
1 2 3 4 5 6 7

THANK YOU!

Concepts

My Community
School
Myself spending life in my hometown community

-the meaning of these concepts is ascertained from bipolar adjectives flanking a 7-place rating scale.
-bipolar pairs were chosen from factors associated with evaluative meanings and from these with activity meanings.

3. Mail Survey

The mail survey was based upon project program objectives that anticipated development of support from parents, community resource people, and educators.

Data Collection Plan and Modifications

The EBCE and control students were scheduled for pre-testing at the beginning of second semester in January, as shown on the Schedule earlier presented. However, no control students had returned the Informed Consent letters, so control testing was moved 2-3 weeks later in February. All post-testing proceeded on schedule, the last week of school. Only delays were in obtaining grade point average and attendance records.

Design

The original design is shown on the Planned Evaluation Design Worksheet. The treatment and outcome variables are juxtaposed with the USOE handbook outcome questions, testing session, etc. Except that the small numbers precluded ANOVA (analysis of variance) by sex and lack of random assignment precluded co-variance, the design was followed. Three Competence tests of the Career Maturity Inventory were added to test related objectives.

The Final Analysis Plan

Since all the hypothesized objectives in the student outcomes were in one direction (EBCE students would increase), the .05 level, one-tailed tests

1977-78
Schedule of Data Collection
for First Year
January-May

Item	Timing in Second Semester		
	Program Entry	Intermittent	Program Close
1. Resources classified by WIC & USOE clusters**	x		x
2. Demographic data	x		
3. Projects completed, credits earned**		x	
4. Students Standardized tests	x		x
5. Project activity rating sheets and derivations**		x	
6. Teacher, parent, resource survey			x
7. Budget resources			x
8. Grade point average. *	x		x
9. Needs assessment*	x		
10. AEL Checklists, etc.**	x		x
11. Career Maturity Inv.	x		x
12. Career Development Inv.	x		x
13. Placement listings			x
14. Job skill choices Grade 11**			x
15. Semantic Differential	x		x

*Data that are collected prior to the project: GATB, GPA, and needs assessment.

**The AEL/EBCE forms are described and presented in the Basic Procedures Manual, Appalachia Educational Laboratory, Charleston, W. Va., January, 1976.

PLANNED EVALUATION DESIGN WORKSHEET

1	2	3	4	5	6	7
Student Outcome Area	Related Evaluation Questions*	Design	Specify Data Source(s)	Instrumentation	Sampling	Data Analysis
	Outcome:					
I. Increased self awareness	3. Do EBCE students show increased positive attitude toward self school, community?	pre-post	EBCE and randomly	SAS, Semantic Differential	30 students random 30 others boys/ girls	anova, analysis of covariance
	Treatment:					
	5. Does program encourage development of attitudes, skills and knowledge enabling students to cope with change?	post	LC	project ratings and activity sheets	N/A	frequencies
II. Maintained Basic Academic/ Vocational Skills	1. Do EBCE students maintain an acceptable level of performance compared with nonEBCE?	pre-post	same	BSI, TAP, credits GPA	same	same
	Treatment:					
	1. The program will expand...learning experiences available to students in community settings?	tabulate # at end in WTG			N/A	frequency count
III. Students have Increased Basic Vocational Skills	Outcome:					
	4. Do students in EBCE increase career decision-making skills?	pre-post	same	CDI III, V VI	same	same
	Treatment:					
IV. Increased Awareness of and Knowledge About World of Work?	4. Does the program increase relevance of education to employment and functioning in society?	post	students	SIQ	same	frequency count

PLANNED EVALUATION (Continued)

1	2	3	4	5	6	7
Student Outcome Area	Related Evaluation Questions	Design	Specify Data Source(s)	Instrumentation	Sampling	Data Analysis
III. Increased Awareness of Work Values	3. Do EBCE students increase in positive attitudes toward work?	pre-post	EBCE and randomly selected nonEBCE	CMI AS	30	anova, analysis of covariance
	Treatment: Whole EBCE	entry enrollment	N/A	program description		
	Outcome:					
V. Increased Decision-making Skills VI. Improved work habits	2. Do students' work habits increase positively? 5. Do students increase in knowledge development activities?	baseline and post	same	attendance records, ratings by Resource Persons	30	same
VII. Increased work seeking and work getting skills	6. Do students' career skills increase?			CMI, SIQ, EBCE sheets, placement	same	same
	Treatment:	(pre):				
	2. Does the program increase attractiveness of career exploration and career development opportunities for all students?	Census, EBCE: ongoing	N/A	Census, SIQ	N/A	frequency counts chi square
	3. Does the program foster integration of academic, vocational and general education?	post	N/A	Semester Summary and End of Year sheet	N/A	frequency counts chi square

* Numbers indicate number of program or outcome objective in narrative.

of significance were used. Findings less than the critical number or that were negative were therefore nonsignificant.[4]

The basic test used was the t-test for dependent means on gains scores. For example, the sum that was a control student's post Reading score minus the pre Reading score was subtracted from the matched EBCE students' similar sum. The resulting Difference mean ($\bar{D}$) was divided by the standard deviation of the difference scores adjusted for the formula $\frac{\bar{D}}{\sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{N}}{N(N-1)}}}$

The Academic Skills objectives (as delineated in Section VI) indicated a "maintenance of skills", requiring a two tailed test, since either gaining significantly more or less than control students was of interest.

The observed t(df=10) on the one-tailed test had to be $\geq$ 1.813 and for two-tailed, 2.23.

[4]-Roscoe, J.T., Fundamental Statistics for the Behavioral Sciences, 2nd Ed., New York: Holt, Rinehart and Winston, 1975.

VI
DETAILED RESULTS

This section provides the program, budget, and student outcome objectives with criterion described, instruments, results and tables, and conclusions.

Program Objective 1

The program will expand the involvement of employer and community organizations and individuals in the educational process by increasing the diversity of careers represented and available for student exploration and by increasing the academic scope and content of learning experiences available to students in community settings.

Criterion A. There are at least five resources developed in each of the 114 worker trait groups and at least 15 resources in each of the 15 USOE clusters.

Instrumentation and resources. "List of Experience Sites as of 1/17/78", "Chart for Relating School Subjects and Occupations Through Worker Trait Groups (WTG)", "USOE Clusters."

Results. Classifying experience sites by the WTG yielded descriptive data that showed 37 of the 114 WTG (32%) were utilized (see Table 1). The number of experience sites by WTG ranged from one to six, with 21 (57%) of the 37 WTG represented by one site. A total of 71 experience sites in 33 establishments were developed with five other establishments indicating interest. All sites were in Sedalia.

Table 1

Experience Sites Classified by Worker Trait Groups

Worker Trait Group	Number of Sites	Occupation Codes*
5 Artistic Restoration, Decoration and Related work	1	0-1, 2, 3, 5
6 Administration	4	0-1, 3
9 Supervisory Work (Clerical, Sales, and Related activities)	1	1, 2, 3, 9

Table 1 (continued)

Worker Trait Group	Number of Sites	Occupation Codes*
10 Managerial Work	3	0-1, 2, 3, 4, 9
11 Consultative and Business Services	2	0-1
12 Interviewing, Information giving and related work	1	1,2
13 Accounting, Auditing and Related work	1	1
15 Corresponding and related work	1	2
16 Information gathering, dispensing, verifying, and related work	6	0-1, 2, 3, 9
18 Secretarial and Related work	5	2,9
20 Paying and Receiving	1	2
23 Typesetting, reproducing and related machine work	2	2,6
24 Classifying, filing, and related work	3	1, 2, 3, 4, 5, 9
26 Computing and related recording	2	1, 2, 3, 5, 8, 9
27 Sorting, inspecting, measuring and related work	1	0-1, 2, 3, 4, 5, 6, 7, 8, 9
29 Routine checking and recording	1	0-1, 2, 3, 5, 6, 7, 9
30 Switchboard Service	2	2
33 Supervisory Work (Working supervisors)	6	0-1, 2, 3, 4, 5, 6, 7, 8, 9
37 Craftsmanship and related work	2	2, 3, 4, 5, 6, 7, 8, 9
38 Precision Working	1	3, 4, 5, 6, 7, 8, 9
39 Manipulating	1	2, 3, 4, 5, 6, 7, 8, 9
55 Engineering, Scientific and Technical Coordination	1	0-1, 9

Worker Trait Group	Number of Sites	Occupation Codes*
56 Drafting and Related Work	1	0,2
57 Technical Work, Engineering, and related fields	1	0-1
74 Investigating, protecting and related work	1	0-1, 2, 3, 4
75 Materials analysis and related work	1	0-1, 4, 5, 9
78 Legal and Related Work	1	1
82 Operating-Controlling	2	1, 2, 3, 4, 5, 6, 7, 8, 9
85 Supervisory Work (Service and related activities)	3	1, 3
91 Therapeutic and Related Work	1	0
92 Nursing, x-ray, and related services	3	0
94 Promotion and Publicity	1	1
95 Purchase and Sales Work	2	1, 2, 4, 9
96 Sales and Service Work	1	2, 6, 7, 8
97 Demonstration and Sales Work	3	2
101 Beautician and Barbering services	1	3
104 Accommodating work	1	3, 4

* First number (of a 3 digit number) indicates occupational categories. Thus, the worker trait group will be found under broad occupational categories listed in summary Table 4.

Ten (66%) of the 15 USOE clusters (see Table 2) were represented with experience sites. The number for each cluster ranged from one to 35, with five clusters having five or more experience sites and five clusters having four or fewer.

Conclusions. The criterion for representing all WTG with five resources was not reached: 32% of WTG were represented with a median of one experience site. The projected criterion for all USOE clusters being represented by 15 resources was not reached: 66% of the clusters were developed with half having five or

or more experience sites. However, since the EBCE project is only one-third completed, these data yield evidence that the experience sites developed were adequate in number and type.

Criterion B. At least 30% of the resource pool are in either professional or technical fields.

Instrumentation. "List of Experience Sites as of 1/17/78", Top Thirty Occupations in Region 13 (see Table 3), and Missouri Area Labor Trends, November, 1977.

Table 2

Experience Sites by USOE Clusters

USOE Cluster		Number of Sites
1	Business and Office Occupations	35
2	Marketing and Distributing Occupations	8
7	Construction Occupations	1
8	Manufacturing Occupations	8
9	Public Service Occupations	3
10	Health Occupations	5
11	Fine Arts and Humanities Occupations	1
13	Communication and Media Occupations	4
14	Hospitality and Recreation Occupations	1
15	Personal Service Occupations	5

Results. The data in Table 3 compared with Table 1 of Occupation Codes yielded the percentages of the top thirty occupations and possible occupational categories where the WTG appear (see Table 4).

Table 3

TOP THIRTY OCCUPATIONS IN
REGION 13*

RANK	OCCUPATION CODE	TITLE	NUMBER EMPLOYED IN 1975
1	801	FARMERS (OWNERS AND TEN.)	6,654
2	964	POLICEMEN AND DETECTIVES	1,860
3	372	SECRETARIES n.e.c.	1,734
4	822	FARM LABORERS, WAGE EARN.	1,691
5	663	SEWERS AND STITCHERS	1,176
6	305	BOOKKEEPERS	1,048
7	715	TRUCK DRIVERS	1,042
8	391	TYPISTS	979
9	903	JANITORS AND SEXTONS	971
10	441	FOREMEN n.e.c.	964
11	961	FIREMEN, FIRE PROTECTION	918
12	915	WAITERS	631
13	925	NURSING AIDES, ORDERLIES, ATT.	586
14	310	CASHIERS	553
15	415	CARPENTERS	534
16	473	AUTOMOBILE MECHANICS	491
17	394	MISC. CLERICAL WORKERS	476
18	705	DELIVERY AND ROUTEMEN	454
19	762	STOCK HANDLERS	435
20	755	GARDENERS AND GROUNDSKEEPERS	398
21	280	SALES (FOOD DISTRIBUTION)	372
22	753	FREIGHT AND MATERIAL HANDLERS	370
23	902	CLEANERS AND CHARWOMEN	336
24	481	HEAVY EQUIPMENT MECHANICS	313
25	325	FILE CLERKS	282
26	823	FARM LABORERS, UNPAID FAMILY	276
27	375	STATISTICAL CLERKS	256
28	430	ELECTRICIANS	251
29	345	KEY PUNCH OPERATORS	236
30	265	INS. AGENTS, BROKERS, UNDERWTRS.	230

*REGION 13 CONSISTS OF PETTIS, LAFAYETTE, JOHNSON AND SALINE COUNTIES.

Table 4

Summary Table

Occupation Category Code (1st number)		Percent Top 30 in Employment	Experience Sites Possible	
		%	N/	%
0-1	Professional, Managerial Technical	0	25	35
2	Clerical and Sales	6.6	23	32
3	Service	26.6	18	25
4	Farming, fishing, and forestry	16.6	12	17
5	Processing	0	10	14
6	Machine trades	3.0	7	10
7	Bench work	16.6	8	11
8	Structural Work	10.0	8	11
9	Miscellaneous	20.0	15	21

NOTE: The WTG experience sites were located in Pettis County (work force employed in November, 1977, was 14,339) while the Top Thirty refer to 1975 data covering an additional three counties with over 37,000 employed in 1977. The additional counties are similar to Pettis in economic outlook and structure, although Pettis had a higher rate of unemployment in November, 1977. The % is figured from 71 total sites. Duplication by occ., etc. Code exists.

The actual percentage of experience sites developed in professional, managerial, and technical was 35%.

Conclusion. The experience sites developed did reach the criterion of 30%.

With one-third of the EBCE project completed, adequate progress was made. The data revealed a distribution of occupation codes that provided more experiences than those represented in the Top Thirty Occupations employment figures.

Criterion C. At least 20 resources are developed in each of the following academic fields: mathematics, science, English, and social studies.

Instrumentation. "List of Experience Sites as of 1/17/78", "Chart for Relating School Subjects and Occupations through Worker Trait Groups."

Results. As shown in Table 5, the resources developed in the charted academic fields are: Mathematics - 18, Science - 18, English - 16, and Social Studies - 13.

Table 5

WTG Resources Developed By Subject Matter

Subject	WTG	Experience Sites N
Mathematics	9	1
	13	1
	16	6
	20	1
	24	3
	26	2
	27	1
	29	1
	55	1
	57	1
Science	33	6
	37	2

Table 6 (continued)

Subject	WTG	Experience Sites N
Science (cont'd)	38	1
	39	1
	55	1
	56	1
	57	1
	74	1
	75	1
	92	3
English	6	4
	10	3
	15	1
	16	6
	78	1
	94	1
Social Studies	6	4
	12	1
	13	1
	74	1
	78	1
	95	2
	97	3

The locally developed Learning Guides were bound in books for each of the areas and showed specific activities by subject matter area.

Conclusions. The range and opportunity for experiencing academic matter through structured Learning Guides and developed resources approached the criterion in Mathematics, Science, and English and was adequate in Social Studies.

Program Objective 2

The enrollment of students in EBCE will be representative of the total population on the variables age in grade/sex/locale (Town over 2,500; Town under 2,500; rural non-farm; farm) distribution of the total student population, abilities and interests.

Instrumentation and Resources. 1970 Census, Student Information Questionnare (SIQ), Tests of Academic Progress (TAP) scores, Career Development Inventory (CDI) Occupational Group, and 1976-77 Needs Assessment Results. The population of Pettis County (with Sedalia the largest city) was 29,481 in 1970 with 340 males and 330 females who were then nine-year olds. (Only 12 boys and 17 girls were black, according to the Census). In the EBCE students, boys were disproportionately represented with 8 of the 12, all Caucasian enrollees. There are 400 10th grade students at Smith-Cotton.

The median age was 16 of all those participating. The Reading median score 46 was at the 44th percentile rank on Tests of Academic Progress and for Mathematics the median score 42 was equal to the 24th PR on 10th grade mid-year norms. Control students on pre-tests had a Reading median score of 40 (PR = 23) and Math of 45 (PR = 41). (Means and standard deviations may be found in Table 21 with EBCE pre-test Reading mean of 48 (PR = 52) and Math of 45 (PR = 36); for EBCE control, pre-test Reading mean = 42 (PR = 30) and Math mean = 45 also (PR = 36). EBCE Reading scores ranged from 39 to 66 and Math from 39 to 67. Control Reading scores ranged from 32 to 57 and Math from 30 to 68.)

The interests of the students were too diverse to compare with the projected training choices on the 1977 Needs Assessment, as shown (see Table 6) from the CDI choices, which were:

Sales and Display - 1; Sports and Entertainment - 3; Medical and Life Sciences - 2; Technical - 1; Business Sales and Promotion - 1; Math and Physical Science Research - 1; Agriculture and Forestry - 1; Mechanics and Operators -

TABLE 6

DISTRIBUTION OF OCCUPATIONAL GROUP PREFERENCES FOR EBCE AND CONTROL STUDENTS NOTED ON THE CAREER DEVELOPMENT INVENTORY

		EBCE		CONTROL	
		Pre	Post	Pre	Post
01	Math & Physical Science Research	1	0	0	1
02	Engineering Applied Science	0	0	1	0
03	Medical & Life Sciences	2	0	0	0
05	Business Analytic	0	0	0	1
07	Business-Sales Promotion	1	0	1	0
08	Visual & Performing Arts	0	2	1	1
09	Literary & Legal	0	0	1	1
11	Education & Human Welfare	0	0	1	2
12	Technical	1	1	0	0
13	Crafts & Trades	0	2	3	3
14	Agriculture & Forestry	1	1	1	1
15	Mechanics & Operators	1	1	0	0
18	Personal & Protective Services	1	2	0	0
20	Sports & Entertainment	3	2	2	1

1; Personal and Protective Services - 1. Table 7 shows higher means for strength of preference for EBCE than for control.

Conclusions. The enrollees were, in general, representative of the student population, with sex at variance. The small N contributed to difficulties in interpreting this criterion.

Program Objective 3

The program will promote the integration of academic, vocational, and general education.

Criterion A. At least 95% of the EBCE students will have earned at least one academic credit through EBCE projects, under specific agreements with LEAS.

Instrumentation and Resources. Compilation of credits, based upon .5 credit possible for the semester in language art, math, science, social studies, or career development.

Results. The 11 students who completed the program out of the 12 who began completed at least one academic credit, with the students actually earning .5 in each, for 2.5. The units were based on both student interest and need of credit for graduation.

Conclusions. The criterion was met successfully.

Criterion B. At least 95% of the EBCE students will have completed at least one site exploration.

Instrumentation and Resources. Activity Sheets.

Results. The number of site explorations ranged from 27 to 45.

Conclusions. The criterion was met successfully.

Program Objective 4

The program will increase the relevance of education to employment and functioning in society.

Criterion A. At least 60% of EBCE students in the program perceive EBCE

TABLE 7

MEANS AND STANDARD DEVIATIONS FOR EBCE & CONTROL ON STRENGTH OF PREFERENCE FOR PREFERRED OCCUPATIONAL GROUP ON THE CAREER DEVELOPMENT INVENTORY

	EBCE				CONTROL			
	PRE		POST		PRE		POST	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Strength of Preference	3.9	1.0	4.8	.46	4.0	1.5	3.3	.9 *

*$p < .05$ $t(df=10)=3.46$ ($\bar{D}=1.7$, $SD_D=.49$)

TABLE 8

FREQUENCY OF PARTICIPATION IN SUMMER WORK OBSERVATION PROGRAM SUMMER AFTER GRADE 9

GROUP	SWOP	NO SWOP
EBCE	5	6
Control	3	8

as helping to prepare them to make informed career decisions.

Instrumentation. Questions on Student Information Questionnaire, Occupational Group Preference and strength of preference rating on the Career Development Inventory.

Results. The range of ratings in answer to the question "How useful for your own plans do you believe that experiencing a career in its own setting would be?" for EBCE pre-test responses was from 1 to a high of 7, with 9 students choosing "7". Also, on post test, the range from EBCE students was 4 to 7, with 9 (81%) students rating at 6 or 7 (very useful). The data in Table 9 (see also Table 20 in Appendix B) showed no differences in gains scores with control students.

Conclusions. The distribution of Occupational Group Preferences show (Table 6) more change for EBCE students while ratings of strength of preference were significantly higher following EBCE than for controls (see Table 7). This criterion was met successfully.

Criterion B. At least 60% of EBCE students in the program perceive their EBCE program as increasing the relevance of their educational program to their future plans (or clarifying those plans).

Instrumentation. Openended replies to question "What's your next step?", and replies post test to question in Criterion A, participation comparison in Summer Work Observation Program.

Results. Results cited for post test in Criterion A and students' "next step plans" (see Page 50) indicate the criterion was successfully met, however, more of these students had already been engaged in career exploration through SWOP (see Table 8) than control.

Conclusions. A high percentage of students indicated that a career experienced in its own setting was very useful and cited specific educational

Table 9

T TEST FOR DEPENDENT MEANS FOR MATCHED EBCE AND CONTROL STUDENTS ON GAIN SCORE RATINGS OF PROJECT

QUESTION	$\bar{X}$	SD	t
1. How useful for your own plans do you believe that experiencing a career in its own setting would be (has been)?	-1.6	.79	NS
2. Would you recommend EBCE to friends?	-0.6	.58	NS

Students' Comments on their "next step"

-take courses related to animal conservation and agriculture - plant science at Smith-Cotton.

-take drivers' ed. and eventually small engine repair through Smith-Cotton

-take welding in the Vo-tech program at State Fair Community College

-want to be a pilot (so courses in math and geography are inferred)

-going to take all the business courses offered at Smith-Cotton

-enroll in the art school

-going to concentrate on ecology and nature related courses at Smith-Cotton

steps related to employment and functioning in society. Half the EBCE students had already started career exploration through SWOP.

Program Objective 5

The program will encourage development of attitudes, skills, and knowledge enabling students to cope with accelerating societal change.

Criterion A. At least 70% of students' projects show activities related to 1) developing skills of problem-solving; 2) acquiring, using, and communicating information; 3) working effectively with others; or 4) acquiring and using subject matter knowledge and skills in solving practical problems.

Instrumentation. The Activity Sheets (AS).

Results. The AS of students provided information that showed the above skills appeared on all sheets, separately and together. A great many written compositions were used as vehicles for communicating work completed. This criterion was successfully met.

Criterion B. At least 80% of the students completed more than one exploration in a career cluster or in more than one career cluster.

Instrumentation. A.S.

Results. All students completing the program completed more than one exploration. The range of explorations was from 27 - 45.

Criterion C. At least 80% of post high plans relate to further training.

Instrumentation. Student Information Questionnaire.

Results. The data in Table 10 indicate more students shifted into "work full time" following EBCE than into post high training. This criterion was not met, since 27% indicated post high plans.

Conclusions. The data cited indicate that attitudes, skills and knowledge were developed based upon all criteria except making future plans for post high training.

Table 10

FREQUENCY OF PLANS AFTER HIGH SCHOOL
FOR EBCE AND CONTROL STUDENTS

	EBCE		CONTROL	
	PRE	POST	PRE	POST
Work full time	2	5	5	4
Apprenticehips/OJT	0		0	1
Military or academy	1	1	0	0
Homemaker	0	0	0	0
AVTS, Tech, or Bs School	1	0	2	2
Academic junior college	0	0	0	0
Tech, voca. program (juco)	2	0	0	0
4 year college	1	2	4	4
Work part time	2	1	0	0
Other	2	2	0	0

*First Choice

Program Objective 6

The program will foster positive attitudes in the community and school toward experience-based learning as a legitimate eudcational activity.

Criterion A. At least 80% of participating resources express support for EBCE as a needed alternative program, commit to continued participating and would recommend participation to friends or co-workers.

Instrumentation. Mail Survey.

Results. There were 28 (55%) replies out of approximately 50 surveys sent to resource persons. The data in Table 11 show those responding strongly support the project and would recommend it to friends, with little deviation from this high support rating. The comments listed in Tables 12 and 13 indicate enthusiasm and some practical suggestions for scheduling of time on site. This criterion was met adequately.

Criterion B. At least 75% of the EBCE students support EBCE as a needed alternative program.

Instrumentation. Student Information Questionnaire

Results. The data in Table 9 (and remarks in Table 12) show support for the project, as well as for recommending it to friends with highly supportive comments. About 81% indicated a rating of 6 or 7 (very useful) in looking at the range of scores on its usefulness while 10 (90%) reported a 6 or 7 on positive replies for recommending to a friend (these ranges are not shown in tabular form).

Criterion C. At least 50% of non-participating faculty support EBCE as a needed alternative program and would recommend the program.

Instrumentation. Mail Survey

Results. The means and standard deviations of the 25% of "EBCE homeroom" teachers responding to the survey indicate neutral support for recommending to students, project being adequately staffed and planned, and a little higher

Table 11

MEANS AND STANDARD DEVIATION
RESULTS OF MAIL SURVEY

Question	Resource M	Resource SD	Parents M	Parents SD	Teachers M	Teachers SD
1. Would you recommend EBCE to students?	6.1	1.3	7.0	0.0	4.7	2.6
2. Does EBCE offer a needed alternative program to the traditional h.s. curriculum?	5.9	1.5	7.0	0.0	3.2	2.6
3. Would you recommend EBCE to colleagues?	5.6	1.7	7.0	0.0	3.6	2.2
4. Was the EBCE project adequately staffed and planned?	6.1	1.5	7.0	0.0	4.8	2.3
5. Does EBCE help students make informed career decisions?	6.0	1.3	6.8	.4	5.3	2.0
6. Does EBCE make clear the relevance of education to a future career moreso than the usual high school program does?	5.5	1.8	7.0	0.0	3.2	1.5

NOTE: Resource Persons N = 28
Parents N = 5
Teacher N = 6

Table 12

Replies to "How would you describe EBCE?"

Resource Person (N=28)

"It is learning through on-the-job training and acquisition of required skills necessary to the performance of certain duties."

"It is a credit in education made more interesting by doing and participating in more than one field of work."

"I don't feel I have had experience enough to comment on this program."

"It is good for any student that is truly interested in any given career. It is a lot of unnecessary involvement and expence for those who don't really care."

"EBCE seems to be an excellent manner in which to expose the student to the rigors of a given business. It, therefore, should be very beneficial to the student as an aid in the decision-making process."

"It is an opportunity for young people to observe first hand how a business generates. It also gives the student an idea of what he or she will have to contend with when they enter the work force."

"I think it is a tremendous program! I wish the program had been available when I was in high school."

"It is a chance for a child to observe and participate in real job situations. The important part of this, I feel, is that the child becomes an "adult" for a short while. He sees from an adult standpoint and is better able to make a decision."

"It gives a better image to the student about the business world prior to graduation."

"It is good for a pilot program."

"It is the medium where student learn what the basic tools of education are and how they are put to use in the everyday business world.

Table 12 (Continued)

Resource Person (cont.)

"It is an opportunity that I wish I could have had. I have changed my field three or four times."

"It gives a student a good chance to experience in the career of their choice."

"It is an opportunity for career-minded individuals to observe various career fields on a day-to-day basis."

"I think it affords interested students the opportunity to experience, first hand, what it requires to perform certain jobs. This should be helpful in selecting a career."

"It is a high school career education search program desirable for some students."

"It is very good!"

"It is a program where the student can use his classroom knowledge in a career experience."

"It is a good idea that needs refining."

"It is a very worthy experience."

"It gives students opportunities that they would not otherwise receive."

"It is a program designed to help students to determine their degree of interest in vocations they feel they might choose to follow."

Students' Comments (N=11)

"It was the best thing I have found to do in school."

"I think it was real fun and inter sting. I liked having the chance of meeting new people and getting to explore their jobs."

"I have really enjoyed being a part of this program. You get to see what the world of work is really like and all of the nice people you get to meet. If I could I really would like to take this course again."

(Students)

"I think that the EBCE program is well worth the effort because it gives the student a broader look of what the world of work is like."

"I found my experiences in EBCE very enlightening toward the world of work. I found that the world out there in the office or wherever it happened to be was a whole lot different than the little world of school. Its a whole new ball game out there."

"EBCE is a great organization for you and me to learn about things of the coming years. It helps to know what's going on in life-after-high school. Its got its problems in which I'm sure will be ironed out this coming year. I wish you good luck in the following years with this program."

"EBCE is a very valuable experience for a student. I would suggest that all students look into it. It has helped me a great deal."

"I think it is hard on homework becuase when you have a problem all you can do is ask a teacher and they say look it up. As far as the experience is concerned it's groovy."

Teacher (N=6)

"It is important to some students, while to some it is a way to get away from school. It needs to be screened a lot closer."

"It is another innovation which will succeed in using quanitities of Federal money and accomplish little other than to provide employment for the EBCE staff."

"It has declined."

"It needs better planning!"

"It is on-the-job experience."

"I cannot truly evaluate this program since I have not seen any of the students on this program, nor have I had any feedback concerning this program!"

Parent (N=5)

"It is mentally stimulating, emotionally rewarding, and different."

Table 12 (Continued)

(Parents)

"It is a well planned program designed to help students decide on a career."

"The decision of a student is important for their future jobs and the EBCE program helps them with this decision process."

"It is a very good program for helping the student to decide on a career."

"It is very good!"

Table 13

Replies to "What one thing would you change about EBCE?"

Resource Person (N=28)

"Enlarge the program."

"Give it longer hours per day."

"I don't feel I have had experience enough to comment."

"I would make each session two weeks minimum."

"I would change the hours. When the student is here during lunch, there is nothing for him/her to do. If possible, it should be all morning at least."

"I would change the way you find out at the last minute who is coming."

"I would have students prepare a short draft indicating what they have learned about the goals of the site and have it reviewed by the resource person."

"I think students should ask more questions."

"None."

"I would screen students for placement according to their interests in a particular field."

"I would make it a program for Juniors and Seniors."

"I would allow more students to participate."

"Time."

"Make it for older students - Junior or Seniors."

Parent (N=5)

"None."

"Nothing."

"Nothing."

"None."

Table 13 (Continued)

Teacher (N=6)

"I would give more time for students at the job site."

"If I was to make a decision concerning the fate of the program and keeping it in existence I would incorporate it into the regular school curriculum much like DECA is, with the student spending 1 hour perday in class the first semester reading literature, listening to guest speakers, viewing slide programs, etc. The second semester could then be used in exposing the students to their choice of career opportunities on a more limited basis (e.g. 2-3 hours per day)."

"I would open it only to juniors for their senior year."

"None."

"Abandon it."

for "EBCE helps students make informed career decisions". Lower (negative) ratings were given EBCE as a needed alternative program, recommending EBCE to colleagues,and EBCE making education more relevant to future career than the traditional program does. The larger standard deviation than that of either parents and resource persons and small number of replies suggests the teachers are not supportive, perhaps from lack of grasp of the strong academic emphasis in the EBCE learning model. The remarks in Tables 12 and 13 reveal lack of support. This criterion was not met.

Criterion D. At least 60% of EBCE student's parents support the EBCE program as a needed alternative program.

Instrumentation. Mail Survey. Results. About 40% of the parents were represented in the responses to the mail survey reported in Table 11. The support is very strong and the criterion was met in those responding, although not enough replies were received to meet the criterion. Remarks from parents are reported in Tables 12 and 13.

Conclusions. The support of the project is very strong is all respondents except teachers who responded.

Summary

The program objectives were generally met for the first program year. These objectives describe the operation of the project in quantifiable terms as it is set up to enable attainment of the student outcome objectives. The program, in terms of management of finances and human resources, does appear to provide the desired processes. The budget analysis, in the next section, gives details of the finances and their management.

Budget Analysis and Evaluation

This section of the report contains an analysis and evaluation of the budget and expenditure data for the Experience Based Career Education (EBCE) project. The initial federal grant was $159,741. In August 1977, an additional $1,996 was made available to the project from the federal government. Since this was a new grant, there were no carry over funds nor other funds commingled with the original and supplemental grant. The total budget for the project was in the amount of $161,737. The fiscal data relating to the EBCE budget are shown in Table 14. Although the federal government only requires seven line items for fiscal reporting purposes, the project used 25 individual line items to account for the funds. The budget reflects line item transfers as indicated by project inter-office memoranda.

First quarter expenditures totaled $26,648.63 or 16.48 percent of the budget. Expenditures for the second quarter were $25,058.84 or 15.49 percent of the budget. Third quarter expenditures were $46,385.79 or 28.68 percent. Total expenditures for the first three quarters represented only 60.65 percent of the EBCE budget or $98,093.26. The remaining balance at the beginning of the fourth quarter was $63,643.74 or 39.35 percent of the total budget. Because of the nature and evaluation requirements of the project, several substantial expenditures were delayed until the fourth quarter. It is likely, however, that the project will have a slight under-expenditure rate in the fourth quarter. This may reflect the fact that 1978 was the first year of the project and specific needs were overanticipated.

Any negative balance for a given line item were not so large that it could not be absorbed by transfering funds or by shifting the expenditures to other related line items. Internal transfers were necessary among several line

TABLE 14

Experience Based Career Education Project

Budget and Expenditures

FY 1978

Line Item	Fiscal Year Budget	1st Quarter Expenditures August 31	2nd Quarter Expenditures November 30	3rd Quarter Expenditures February 28	4th Quarter Balance Remaining May 31
Salary, Professional	$16,000.00	$ 3,784.21	$ 3,784.26	$ 3,784.26	$ 4,647.27
Salary, Clerical	10,680.00	3,234.00	3,276.00	3,276.00	894.00
Salary, Placement	12,000.00	1,974.00	2,148.00	2,904.00	4,974.00
Salary - LC	24,987.00	5,148.00	6,133.80	5,148.00	8,557.20
Salary - PT	13.00	-0-	-0-	342.02	⟨329.02⟩
Salary, Bus Driver	500.00	-0-	-0-	-0-	500.00
Travel	9,470.00	3,341.91	1,922.02	1,581.29	2,624.78
Student Transportation	12,000.00	-0-	-0-	-0-	12,000.00
Postage	2,000.00	191.43	104.34	124.47	1,579.76
Office Supplies	4,473.00	838.68	585.81	567.64	2,480.87
Instructional Supplies	2,602.00	367.61	1,727.88	2,116.19	⟨1,609.68⟩
Reproduction	4,000.00	477.97	514.82	712.22	2,294.99
Professional Service	450.00	-0-	-0-	60.00	390.00
Consultants	1,000.00	-0-	-0-	120.00	880.00
Evaluation Consulting Services	23,576.00	-0-	1,737.00	8,215.34	13,623.66
Telephone	2,000.00	449.01	725.10	322.17	503.72

TABLE 14

Continued

Line Item	Fiscal Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Computer Service	$ 7,353.00	$ -0-	$ -0-	$ -0-	$ 7,353.00
Indirect Costs	15,100.00	-0-	-0-	15,100.00	-0-
Retirement Professional	5,034.00	848.55	942.20	848.55	2,394.70
Retirement Non-professional	320.00	156.24	162.72	185.40	(184.36)
Workmans Compensation	144.00	-0-	-0-	144.00	-0-
Retirement Social Security	625.00	304.65	317.29	390.44	(387.38)
Insurance	810.00	-0-	-0-	147.80	662.20
Reproduction of Reports	200.00	-0-	-0-	-0-	200.00
Equipment	6,400.00	5,532.37	977.60	296.00	(405.97)
Total	$161,737.00	$26,648.63	$25,058.84	$46,385.79	$63,643.74
Percent	100.00%	16.48%	15.49%	28.68%	39.35%

items to accomodate increased expenditure levels. These transfers did not represent any shift in priorities or program emphasis.

In general, a review of the budget and expenditure data indicates that the project disbursed its federal funds at a relatively uneven rate throughout the fiscal year. All funds were accounted for through line items reflecting the needs of the project. Transfers were made among various line items, but they did not indicate any change in program emphasis.

Student Demographic Data

Certain data were cited earlier in Program Objective 2 that were based upon Tables 6 and 7 on Occupational Group Preferences and strength of preference, taken from the Career Development Inventory Answer Sheet. The sex and age of students was related to Census distributions. A description of mean, median, and range of Tests of Academic Progress subtests Reading and Math were described.

The above data provided a description of the EBCE students as similar in age, ability, and occupational preference to the over all student population except 8 of the 11 EBCE students were boys, where half the possible enrollment was male. The small number of students made definite description of representativeness difficult.

A frequency distribution of mothers' and fathers' occupation's and educational levels indicates those for the EBCE students were similar to those of control students (see Tables 15 and 16) and to the Top Thirty Occupations in Region 13 (see Table 3).

Student Outcome Objectives*

Both a summary table (Table 17) of all the t-tests for dependent means (post minus pre-test scores were analyzed by matched pairs of EBCE minus control students' scores) and tables of all means (see Appendix B) are provided.

1. Academic Skills Objective. EBCE students will maintain an acceptable level of performance in basic academic skills.

Instrumentation. Basic Skills Inventory (AEL), Tests of Academic Progress Reading and Mathematics and grade point average.

NOTES: The Methodology outlined in Section V stated that two-tailed tests of significance for the Academic Skills were run since the objective was to test whether skills were maintained by EBCE students compared

TABLE 15

FREQUENCY OF MOTHERS' AND FATHERS' OCCUPATIONS FOR EBCE AND CONTROL STUDENTS

OCCUPATION	MOTHER		FATHER	
	EBCE	CONTROL	EBCE	CONTROL
Clerical	4	3	0	0
Crafts	0	1	2	1
Farm	0	0	1	0
Homemaker	2	1	0	0
Laborer	0	0	0	1
Manager/Adm.	0	2	0	2
Military	0	0	1	0
Operative	2	0	3	2
Professional	1	1	2	0
Owner	0	1	0	3
Protective Serv.	0	0	1	
Sales	0	2	0	1
Service	1	0	0	
Technical	0	0	0	1
Information Not Available	1	0	1	0

TABLE 16

FREQUENCY OF EDUCATIONAL LEVEL OF MOTHERS AND FATHERS OF EBCE AND CONTROL STUDENTS

EDUCATION	MOTHER		FATHER	
	EBCE	CONTROL	EBCE	CONTROL
	N	N	N	N
None	0	0	0	0
Elementary School	0	0	0	0
Some High School	3	1	4	1
High School Grad.	4	10	3	7
High School Plus Post High (Tech., Bs., Juco, College)	3	0	2	1
College Grad.	0	0	0	2
Some Graduate Work	0	0	0	0
Advanced Degree	0	0	1	0
Information Not Available	1	0	1	0

Table 17

t TEST FOR DEPENDENT MEANS ON GAINS SCORES
FOR MATCHED EBCE AND CONTROL STUDENTS
ON SELECTED TESTS

TEST	$\bar{D}$	SD_D	t
Career Development Inventory			
Part I	13.8	7.1	1.94*
Part II	-6.2	19.4	NS
Part III	1.0	1.1	NS
Part IV	-4.8	2.0	NS
Part V	-1.4	1.2	NS
Part VI	-1.9	1.6	NS
Student Attitude Survey			
Positive School	2.8	2.0	NS
Negative School	-1.5	.8	NS
Positive Work	-.2	1.5	NS
Negative Work	-.6	1.7	NS
Career Maturity Inventory			
Attitude Scale	2.3	1.4	NS
Competence Tests			
Part I	1.6	1.5	NS
Part II	2.2	1.6	NS
Part III	3.0	1.2	2.60*
Tests of Academic Progress			
Reading	-.2	1.8	NS
Mathematics	-.7	2.2	NS
Semantic Differential			
Community: Evaluative	2.3	3.0	NS
Activity	-.7	1.5	NS
School: Evaluative	-3.5	2.7	NS
Activity	-2.2	1.1	NS
Myself Spending Life in Community: Evaluative	-6.5	3.2	NS
Activity	-5.2	1.9	NS
Grade point average	.42	.74	NS

* $p < .05$ one-tailed test for hypothesized EBCE gains except on Tests of Academic Progress which was a two-tailed test, and GPA was a two-tailed test.

Note. Two-tailed tests were made for the hypothesis that academic skills maintenance would be the same for EBCE and control, so a significant difference in the direction of either group's mean would have been of interest. Al other hypotheses were for EBCE INCREASE.

Results. Both EBCE and control students completed the Basic Skills Inventory Reading and Math subtests (see Table 18 in Appendix B for $\bar{X}$ & SD) before the project began. The mean and standard deviation on matched differences were .81 and 1.38, respectively for Reading, and 2.09 and 4.5, respectively, for Math, neither significant. As shown in Table 17, both the TAP subtests' gains scores were nonsignificant. The GPA t-test of differences yielded mean of .4 and standard deviation of .7, also nonsignificant.

Conclusion. The objective was fully met, with EBCE students maintaining the same level of academic skill development as the control students did.

2. Student Work Habits Objective. EBCE students work habits will be positively rated on sites, attendance and punctuality will be better than control students'.

Instrumentation. AEL Resource people's ratings of students, records of attendance. (EBCE students were bussed to sites, generally, precluding to measure of punctuality.)

NOTES (cont'd): with control students. All other objectives indicated that EBCE students would increase their scores, therefore tests of significance were one-tailed, testing for EBCE increase at the .05 level. No other result could be other than nonsignificant.[5]

The small number of students makes obtaining significant differences difficult since a one-tailed t (df = 10) = 1.81 and two-tailed t (df = 10) = 2.23 at .05 level which must be exceeded to be a "significant difference".

The small number of observed significant differences in the many measures may themselves be chance.

5-Roscoe op cit.

Results. Ratings by resource persons were generally positive as shown in project records available, while a comparison of attendance showed EBCE students with an average of 8.9 days' absence and controls with an average of 6.7.

Conclusion. The students in EBCE exhibited lower attendance than controls and were rated as holding positive work habits.

3. Attitudes Objective. EBCE students will increase positive attitudes toward work, planfulness, learning, environment, self, and community over those control students.

Instrumentation. Career Development Inventory - I. Extent of Planning and IV. Knowledge of Preferred Occupations; Career Maturity Inventory - Attitude Scale, I. Know yourself; Student Attitude Survey School and Work; Semantic Differential - School, Community, Myself spending my life in my hometown community.

Results. The significant gains by EBCE students were made on CDI I. Extent of Planning. All other tests of EBCE differences were nonsignificant, no different for EBCE students over control students.

Conclusions. The objective of EBCE students positively increasing attitudes was revealed only in the area of planfulness.

Thus, this objective was partially met. (A review of the students' comments regarding EBCE in Table 12 reveals some positive self statements in an open-ended fashion although these are not quantifiable.)

4. Career Objectives Goal. EBCE students will increase career decision making skills and nontraditional exploration over those of control students.

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*NOTE: The resource people may have been reluctant to differentiate work habits to any degree, based upon observations of project staff from "informal" conversation compared with formal records submitted.

Instrumentation. Choices in Occupational Group from Career Development Inventory answer sheet; CDI III. Decision-making; V. World of work, and VI. Knowledge of preferred occupational group and Career Maturity Inventory III Choosing a job.

Results. The choices of Occupational Group were too spread out (see Table 6) for testing differences. A significant difference in EBCE increase was noted for CMI III Choosing a job. No other measures were significant.

Conclusions. The objective of increase in decision-making skills was partially reached while no test of nontraditional exploration could be made.

5. Career Development Objective. EBCE students will increase knowledge of and commitment to career development activities.

Instrumentation. Career Development Inventory II. Knowledge and Use of Resources and IV. Career Information and survey questions of "next step"; future plans from Student Information Questionnaire; Career Maturity Inventory II Knowing about jobs.

Results. The "next step" replies (see Page 50) showed commitment to career development activities as did future plans (see Table 10) but none of the standardized measures were significant. (see Table 17)

Conclusions. This objective was not met.

6. Breadth of Career Options Objective. EBCE students will increase career skills, which will permit more employment opportunities, more than control students will.

Instrumentation. Career Development Inventory (all six sections); number of Activity Sheets completed; future plans.

Results. One CDI subtest (Extent of Planning) was significantly higher for post test EBCE students and the number of clusters represented in the 27 to 45. Activity Sheets completed showed breadth of exploration across more than one cluster; future plans (see Table 10) showed more changes for EBCE students

following EBCE than for control students at the close of the semester.

Conclusions. EBCE students appear to have increased breadth of career options.

Summary

The students' outcomes for the small sample participating indicate the Experience Based Career Education program has been implemented in such a way that academic skills are maintained, work habits are rated positively, planfulness (which is a strong correlate of vocational malturity) increases, and "choosing a job" knowledge increases - both of the latter expanding breadth of career options - strength of preference of preferred occupational group increases. All of these are observed for the range of student abilities, interests, and socioeconomic status of the larger population represented.

APPENDIX A

Informed Consent Letters

Appendix A
EBCE Students
Informed Consent Letter

Dear Parent,

State Fair Community College in Sedalia is establishing an Experience Based Career Education (EBCE) program for second semester sophomores in your school district under a grant from the U.S. Office of Education.

The goal is to use the entire community as a school, blending academic school subjects, career awareness, and basic and social skills for each individual student. Thus, EBCE provides students with the knowledge and skills needed to function as a worker.

The experiences students plan under a learning coordinator/teacher are translated into earned credit.

A group of students will be randomly selected from all those who wish to participate whose parents have returned this permission slip.

The participation is voluntary. The goals are explained above. In order to evaluate the project, certain data must be collected, but will never be reported except as grouped data: no individual results will be used. Evaluation data will be: grade point average before and after participation; age; sex; grade; work experience; plans and attitudes toward careers; ability; achievement; career knowledge; and opinions of the program. The measures are available for your inspection at SFCC, and results will also be available there.

Parents will also be surveyed by mail concerning their views of the program. A return of the mail survey will constitute agreement to participate in the survey at that time.

If you wish your child to be in the group from whom participants will be chosen, please sign below. Please discuss this with your child.

_____ _____

Student's Name Name

_____ _____

School Date

Yours truly,

Judy Rae Kuhlman
EBCE Project Director

INFORMED CONSENT: CONTROL

February 7, 1978

Dear Parent:

Smith-Cotton High School and State Fair Community College are establishing an Experience Based Career Education (EBCE) program for second semester sophomores under a grant from the U.S. Office of Education. The goal is to use the entire community as a school, blending academic school subjects, career awareness, basic skills, and social skills for each individual student.

Those experiences are planned by a learning coordinator/teacher and are translated into earned credit through learning activities.

To test the effect of this program, we have selected twenty (20) students from the remainder of the tenth grade class to act as a control group. These students will stay in their regularly scheduled classes, but will be given one achievement test and one career knowledge survey to judge their in-class progress. The same test and survey will be given to the EBCE students. We will then total the scores to see how the two groups of students compare. Information will be collected from the students, but will never be reported except as grouped scores. No individual results will be used.

Participation in the control group is strictly voluntary and will only require about five hours of time for the student during the second semester. Your help will be appreciated.

If we may test your child as part of the control group, please sign below and return this form to the Guidance Department at Smith-Cotton High School.

Morris Byrum, Principal

Judy Rae Kuhlman
EBCE Director

DS/eh/M1/1/21

_____ _____

Student's Name Parent's Signature

APPENDIX B

Tables of Means and Standard Deviations or Frequency Counts of Pre and Post Measures

TABLE 18

MEANS AND STANDARD DEVIATIONS FOR
EBCE AND CONTROL STUDENTS
ON BASIC SKILLS INVENTORY

	EBCE		CONTROL	
	$\bar{X}$	SD	$\bar{X}$	SD
Reading	21.0	2.5	74.6	18.8
Math	20.3	3.8	71.5	13.5

TABLE 19

MEANS AND STANDARD DEVIATIONS FOR
EBCE AND CONTROL STUDENTS ON
GRADE POINT AVERAGE

GPA	EBCE				CONTROL			
	FALL		SPRING		FALL		SPRING	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
	4.8	1.8	5.0	2.2	5.4	1.8	5.3	2.6

TABLE 20

MEANS AND STANDARD DEVIATIONS OF EBCE AND CONTROL STUDENTS ON USEFULNESS OF EBCE AND STRENGTH OF RECOMMENDATION

Group: Usefulness of EBCE	$\bar{X}$	SD
Pre		
EBCE	6.36	1.8
Control	4.36	1.2
Post		
EBCE	6.09	1.1
Control	5.73	1.1
Group: Recommend EBCE		
Pre		
EBCE	6.63	.8
Control	4.09	1.6
Post		
EBCE	6.54	.6
Control	4.73	1.0

Table 21

MEANS AND STANDARD DEVIATIONS
FOR EBCE AND CONTROL STUDENTS
ON TESTS OF ACADEMIC PROGRESS
READING AND MATHEMATICS

	EBCE				CONTROL			
	Pre		Post		Pre		Post	
Scale	X	SD	X	SD	X	SD	X	SD
Reading	48.4	8.1	49.5	10.9	42.0	7.3	43.2	8.8
Math	45.0	9.3	47.0	10.9	54.3	11.5	48.2	11.7

Table 22

MEANS AND STANDARD DEVIATIONS FOR EBCE AND CONTROL STUDENTS ON CAREER DEVELOPMENT INVENTORY

	EBCE				CONTROL			
	Pre		Post		Pre		Post	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Extent of Planning	81.7	21.7	94.5	17.4	87.0	22.2	86.8	25.0
Use of Resources	289.3	32.2	272.9	49.9	267.7	43.8	257.5	49.4
Career Decision Making	16.6	4.0	17.1	5.6	15.3	3.3	14.7	4.5
Career Dev. Information	21.1	4.0	17.8	7.3	16.1	5.8	16.1	6.8
World of Work Information	15.3	3.2	16.3	3.5	12.6	5.5	14.3	4.9
Info About Preferred Occu. Group	19.7	2.8	17.9	3.3	19.4	4.4	19.5	5.4

* $p < .05$

TABLE 23

MEANS AND STANDARD DEVIATIONS FOR EBCE AND CONTROL STUDENTS ON ATTITUDES TOWARD SCHOOL AND WORK

	EBCE				CONTROL			
	Pre		Post		Pre		Post	
Scale	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Positive School	18.6	2.1	17.6	2.6	18.9	4.0	15.1	7.2
Negative School	17.2	3.9	15.1	4.7	16.3	3.5	16.5	4.5
Positive Work	19.1	3.1	18.8	3.2	18.4	2.1	17.5	3.0
Negative Work	17.1	2.3	17.1	2.7	16.6	3.5	17.3	3.2

TABLE 24

MEANS AND STANDARD DEVIATIONS FOR EBCE AND CONTROL STUDENTS ON THE CAREER MATURITY INVENTORY

SCALE	EBCE				CONTROL			
	PRE		POST		PRE		POST	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Attitude Scale	33.6	2.4	34.4	3.4	34.0	4.2	32.7	2.9
Know Yourself	12.4	3.3	12.4	4.3	10.4	4.0	8.6	4.5
Knowing About Jobs	15.2	2.0	14.9	3.5	13.6	4.5	11.1	5.0
Choosing a Job	13.1	2.6	14.4	3.7	10.5	3.4	7.7	3.9

Table 25

MEANS AND STANDARD DEVIATIONS OF
EBCE AND CONTROL STUDENTS ON
SEMANTIC DIFFERENTIAL

Scale	EBCE				CONTROL			
	PRE		POST		PRE		POST	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
My Community								
Evaluative	29	7.7	31.5	4.4	30.3	5.4	28.5	7.1
Activity	12.5	2.2	13.1	2.5	10.9	4.6	12.2	3.2
School								
Evaluative	27.3	7.1	26.7	6.5	24.7	5.6	27.7	6.7
Activity	13.8	3.4	13.8	2.6	10.3	4.0	11.7	4.5
Myself spending life in my community								
Evaluative	42.4	6.7	40.0	8.3	36.1	11.3	40.3	9.9
Activity	20.5	3.4	18.6	4.4	15.5	5.0	19.4	4.7

Table 26

Intercorrelations of Pretest Data for All Students

TESTS	CDI-II	III	IV	V	VI	PS	NS	PW	NW	AS	I	II	III	CE	SE	ME
CDI-I	35	04	10	24	27	09	-31	21	2	24	-14	3	-1	-23	-30	-16
-II		21	51	43	8	07	-17	10	-1	-25	16	25	38	18	-12	12
-III			57	52	04	43	30	09	34	10	47	53	44	05	13	12
-IV				51	26	6	21	15	21	08	60	55	73	-08	38	15
-V					02	56	33	20	46	10	61	56	49	11	11	30
-VI						15	-29	-24	-14	01	-08	02	20	-17	-39	-36
SA-PS							28	09	27	30	26	38	13	05	-26	09
-NS								33	11	32	19	47	-03	27	52	54
-PW									12	45	07	06	-12	19	02	36
-NW										15	49	40	23	-15	01	09
CMI-AS											13	36	-03	-18	07	12
-I												60	75	-09	51	22
-II													60	-17	37	15
-III														-26	32	05
SD-CE															08	49
-SE																54

NOTE: Decimals have been omitted.

* $p < .05 = r \geq .3606$

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